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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,566	03/29/2004	Sasha Paley	246/236	1230

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EXAMINER	
SCHNEIDER, JOSHUA D	

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/810,566	PALEY ET AL.	
	Examiner	Art Unit	
	Joshua D. Schneider	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the term multi-LUN is used in many paragraphs with out ever explaining what an LUN is, the term virtual device is used without explaining any virtual characteristics that define the device. The specification also teaches that the autorun feature is not available in keychain storage devices (page 2, lines 1-4), but then teaches that the use of an autorun feature was well known in the prior art keychain storage devices (Figs. 1 and 2, and page 10, line 14, through page 12, line 17).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 24, 30, and 44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The term LUN is not described in any way that would enable one of ordinary skill in the art to make the invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. With regards to claims 1-44, the term virtual is used in a way that is inconsistent with its standard definition, but is not defined in the specification. By definition virtual means "being such in essence or effect though not formally recognized or admitted," as defined by Merriam-Webster's Online Dictionary. In these claims, applicant has claimed that the first and second "virtual" devices can in fact be separate devices. If they are in fact first and second separate devices, there is nothing virtual about them. As such the term "virtual" must have some different meaning that has not been found in the specification. The independent claims then all fail to distinctly claim the subject matter that the applicant regards as the invention. The fact that the two virtual devices are claimed to be two separate devices in some claims, and in a single physical device in other claims also leads to divergent search matter that attempting to claim more than on invention.

7. Similarly, virtual multi-level LEDs are claimed in claim 21, but it is not explained how they are virtual.

8. The dependent claims are rejected for incorporating the same indefinite subject matter.

9. With regards to claim 2, it is unclear how the first virtual device can pass the second set of commands to the microcontroller, when the second set of commands was passed from the second device to the microcontroller. It is unclear how the commands got from one device to another, when no such path has been claimed or described in the specification.

10. With regards to claim 4, a native command is not described or defined in the specification in order to enable on of ordinary skill in the art at the time of invention to know how to receive a native command and how it must be re-interpreted.

11. With regards to claim 18, the term reversibly operationally connecting is not defined by the specification.

12. With regards to claims 24, 30, and 44, the term LUN is undefined in the specification.

13. With regards to claim 34, the phrase "wherein are embedded" is indefinite as it is structurally unsound grammar that does not set forth what is embedded.

14. All further rejections and objections are made in view of the specification as best understood in light of the previous rejections and objection.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1-7, 25, 29, 31, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,502,146 to Rasmussen et al.

17. With regards to claim 1, Rasmussen teaches a microcontroller for executing commands received from the host computer (Fig. 2, elements 250 and 260, column 4, line 25, through column 5, line 25, sequencer logic, port and associated device); a first virtual device for passing to said microcontroller a first set of said commands received from any user of the host computer (Fig. 2, elements 230 and 235, column 4, line 25-57); and a second virtual device for passing to

said microcontroller a second set of said commands received from any user of the host computer (Fig. 2, elements 210 and 215, column 4, line 25-57).

18. With regards to claim 2, Rasmussen teaches said first virtual device is operative to pass to said microcontroller said second set of said commands received from only a privileged user of the host computer (Fig. 2, elements 230 and 235, column 4, line 25-57).

19. With regards to claim 3, Rasmussen teaches said second virtual device is operative to pass to said microcontroller any said command received from any user of the host computer (Fig. 2, elements 210 and 215, column 4, line 25-57).

20. With regards to claim 4, Rasmussen teaches said microcontroller is operative to receive from said second virtual device any said command formatted as a native command of said second virtual device and to re-interpret said native command as said any command (Fig. 2, elements 205, 210, and 215, column 4, line 25-57, re-interpretation of host commands inherent to device drivers).

21. With regards to claim 5, Rasmussen teaches an interface for effecting an operational connection of the peripheral device to the host computer to receive said commands (column 4, line 25-57).

22. With regards to claim 6, Rasmussen teaches said virtual devices are sub-interfaces of said interface (Fig. 2, elements 210, 215, 230, and 235, column 4, line 25-57).

23. With regards to claim 7, Rasmussen teaches said interface is a USB interface (column 4, line 44-54).

24. With regards to claim 25, Rasmussen teaches said first virtual device and said second virtual device are implemented in a common physical device (Fig. 2, element 115).

25. With regards to claim 29, Rasmussen teaches an interface for effecting an operational connection of the peripheral device to the host computer to receive said commands (column 4, line 25-57).

26. With regards to claim 31, Rasmussen teaches a second virtual device operative to pass to the microcontroller for execution the second set of commands if received from any user of the host computer (Fig. 2, elements 210 and 215, column 4, line 25-57), operationally connecting the peripheral device to the host computer; sending a command of said second set from the host compiler to the peripheral device, by a user of the host computer (Fig. 2, elements 210, 215, 230, and 235, column 4, line 25-57), if said user is a privileged user, sending said command of said second set to the microcontroller via the first virtual device (Fig. 2, elements 230 and 235, column 4, line 25-57); and otherwise, sending said command of said second set to the microcontroller via said second virtual device (Fig. 2, elements 210 and 215).

27. With regards to claim 33, Rasmussen teaches said first and second virtual devices are implemented in separate respective first and second physical devices within the peripheral device Fig. 2, elements 210, 215, 230, and 235, column 4, line 25-57), the method further comprising the step of: operationally connecting said second physical device to the host computer only if said user is not a privileged user Fig. 2, elements 210 and 215, column 4, line 25-57).

28. Claims 1-13, 16, 17, 22, 31, 32, 38-41, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicants Admitted Prior Art (AAPA).

29. With regards to claim 1, AAPA teaches a microcontroller for executing commands received from the host computer (Fig. 1, element 123); a first virtual device for passing to said microcontroller a first set of said commands received from any user of the host computer (Fig. 2,

elements 124 and 131); and a second virtual device for passing to said microcontroller a second set of said commands received from any user of the host computer (second copy of Fig. 2, elements 124 and 131, where there are two physical devices, as per claim 16).

30. With regards to claim 2, AAPA teaches said first virtual device is operative to pass to said microcontroller said second set of said commands received from only a privileged user of the host computer (Fig. 2, element 133).

31. With regards to claim 3, AAPA teaches said second virtual device is operative to pass to said microcontroller any said command received from any user of the host computer (Fig. 2, element 132).

32. With regards to claim 4, AAPA teaches said microcontroller is operative to receive from said second virtual device any said command formatted as a native command of said second virtual device and to re-interpret said native command as said any command (page 10, line 14, through page 12, line 17, re-interpretation of host commands inherent to device drivers).

33. With regards to claim 5, AAPA teaches an interface for effecting an operational connection of the peripheral device to the host computer to receive said commands (page 10, line 14, through page 12, line 17).

34. With regards to claim 6, AAPA teaches said virtual devices are sub-interfaces of said interface (Fig. 2, elements 132, 133, and 134, page 10, line 14, through page 12, line 17).

35. With regards to claim 7, AAPA teaches said interface is a USB interface (Fig 1, element 124).

36. With regards to claim 8, AAPA teaches said first virtual device is a USB mass storage interface (Fig. 1, element 124).

37. With regards to claim 9, AAPA inherently teaches said interface effects a simultaneous operational connection of both said virtual devices to the host computer to receive said commands, as the USB specifications require that multiple devices can be connected at the same time.

38. With regards to claim 10, AAPA inherently teaches said interface is a USB interface, and wherein said first and second virtual devices are operative to be enumerated together by the host computer, thereby becoming simultaneously operationally connected to the host computer as both devices would be enumerated together is connected to the host computer at startup of the USB or upon resetting.

39. With regards to claim 11, AAPA inherently teaches said interface effects an alternate operational connection of said two virtual devices to the host computer to receive said commands, as USB is a time-multiplexed bus, and two devices connected to it would alternately send and receive data.

40. With regards to claim 12, AAPA inherently teaches said interface is a USB interface, and wherein said first and second virtual devices are operative to be enumerated alternately by the host computer, thereby becoming alternately operationally connected to the host computer, as the devices could be alternately physically connected and disconnected to the USB.

41. With regards to claim 13, AAPA teaches a third virtual device that supports auto-run when said operational connection of the peripheral device to the host computer is initiated (third copy of Fig. 2, elements 124, 131, and 134, where there are three physical devices).

42. With regards to claim 14, AAPA teaches said virtual devices are sub-interfaces of said interface (Fig. 2, elements 132, 133, and 134, page 10, line 14, through page 12, line 17).

43. With regards to claim 16, AAPA inherently teaches said first virtual device and said second virtual device are implemented in separate respective first and second physical devices (first and second copy of keychain storage device).

44. With regards to claim 17, AAPA teaches an interface for effecting an operational connection of the peripheral device to the host computer to receive said commands (page 10, line 14, through page 12, line 17).

45. With regards to claim 22, AAPA teaches third virtual device that supports autorun when said operational connection of the peripheral device to the host computer is initiated (third copy of Fig. 2, elements 124, 131, and 134, where there are three physical devices).

46. With regards to claim 31, AAPA teaches including, in the peripheral device (Fig. 1, element 120), a second virtual device operative to pass to the microcontroller for execution the second set of commands if received from any user of the host computer (Fig. 2, element 132), operationally connecting the peripheral device to the host computer; sending a command of said second set from the host compiler to the peripheral device, by a user of the host computer (page 10, line 14, through page 12, line 17), if said user is a privileged user, sending said command of said second set to the microcontroller via the first virtual device (Fig. 2, element 133); and otherwise, sending said command of said second set to the microcontroller via said second virtual device (Fig. 2, element 132).

47. With regards to claim 32, AAPA teaches including, in the peripheral device, a third virtual device that supports autorun when said operational connecting is effected, said autorun determining whether said user is a privileged user (Fig. 2, element 134).

48. With regards to claim 38, AAPA teaches a microcontroller for executing commands received from the host computer (Fig. 1, element 123), first virtual device for passing said commands from the host computer to said microcontroller (Fig. 2, element 132), and a second virtual device, separate from said first virtual device, that supports autorun when the host computer detects a presence of said second virtual device in the peripheral device (Fig. 2, element 134, page 10, line 14, through page 12, line 17).

49. With regards to claim 39, AAPA teaches an interface for effecting an operational connection of the peripheral device to the host computer to receive said commands; and wherein said virtual devices are sub-interfaces of said interface (page 10, line 14, through page 12, line 17).

50. With regards to claim 40, AAPA teaches said interface is a USB interface (Fig. 2, element 135).

51. With regards to claim 41, AAPA teaches said first virtual device is a USB mass storage interface (Fig. 2, element 124).

52. With regards to claim 43, AAPA teaches said first and second virtual devices are implemented in a common physical device (Fig. 2, elements 131, 132, 133, and 134).

Claim Rejections - 35 USC § 103

53. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

54. Claims 15 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Admitted Prior Art (AAPA) in further view of U.S. Patent 6,813,725 to Hanes et al.

55. With regards to claims 15 and 42, AAPA does not explicitly teach one of the virtual devices is a USB CD sub-interface of said interface. Hanes teaches that USB CD sub-interfaces were well known in the art at the time of invention (column 2, line 38-52). It would have been obvious to connect the USB sub-interfaces of Hanes with the USB of the AAPA in order to provide a large amount of storage space for application such as disaster recovery.

56. Claims 18-21, 23, 24, 26-28, 30, 34-37, and 44 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

57. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Application Publication 2002/0162009 to Shmueli et al. teaches the use of privileged access keylets (virtual devices) to access a peripheral device (paragraphs 40-44). U.S. Patent 6,385,677 to Yao teaches two sub-interfaces for accessing a peripheral memory. U.S. Patent Application Publication 2003/0225765 to Frieden et al. teaches privileged and guest portals accessing a server. U.S. Patent 6,073,226 to Cutshall et al. teaches different virtual devices (access tables) for user and privileged access to a memory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Schneider whose telephone number is (571) 272-4158. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272-4083. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JDS

KIM HUYNH
PRIMARY EXAMINER
8/5/05